

ABSTRACT OF THE DISCLOSURE

A load port of a semiconductor manufacturing apparatus includes a plurality of kinematic coupling pins and a plurality of sensors integrated with the pins. The contacts of the sensors have upper portions that protrude from the pins. Thus, when a cassette is place on the load port, the sensors can reliably sense whether the cassette is resting properly and/or can determine whether the cassette contains wafers. Once such determinations are made in the positive, a command signal is issued that serves to load the wafers into a chamber of the manufacturing apparatus.